

IN THE CLAIMS

1-39. (Cancelled).

40. **(Currently Amended)** A method of manufacturing a sensing device to image a textured surface, the method comprising:

providing a sensor array that is fabricated upon a base, the base including an interconnect structure electrically connected to the sensor array, the sensor array having cells configured to detect the textured surface and represent different portions of the textured surface with signals corresponding thereto; and  
mounting [[a]] one or more sensor support integrated circuit devices upon the base, the at ~~least one~~ one or more sensor support integrated circuit ~~device~~ devices electrically connected to the interconnect structure and configured to address the cells of the sensor array and process the signals obtained from the sensor array.

41. (Original) The method according to claim 40 wherein the mounting includes:  
aligning contact pads on each sensor support integrated circuit device with corresponding contact pads on the base; and  
electrically connecting said contact pads on each sensor support integrated circuit device with the corresponding contact pads on the base.

42. (Original) The method according to claim 40 wherein the step of providing provides the sensor array that is fabricated using passive sensing cells.

43. (Previously Presented) The method according to claim 40 further comprising the step of:  
electrically connecting a cable to the interconnect structure within the base, the cable configured to provide power to the sensor array and each sensor support integrated circuit device, and to transmit the signals after the signals are processed within the one or more sensor support integrated circuit devices.

44. (Original) The method according to claim 43 wherein the step of electrically connecting the cable comprises:

soldering attach pads on the cable to contact pads disposed on the base, the contact pads electrically connected to the sensor array.

45. (Previously Presented) The method according to claim 42 wherein the step of providing includes fabricating the sensor array, and the step of fabricating the sensor array includes, for each cell of the sensor array, configuring the cell to react to a force exerted in the cell's responsible locality, the force the result of a fingerprint feature pressed against the sensor array in the responsible locality.

46. (Previously Presented) The method according to claim 45 wherein the step of configuring comprises:

building a button configured to receive the force from the fingerprint feature;  
building a flexible mechanical structure below and contacted to the button, the mechanical structure deforming due to an amount of the force exerted on the button;  
and  
building a contacting electrode disposed on the flexible mechanical structure, the contacting electrode interfacing with a base contacting electrode on the base, such that when the contacting electrode contacts the base contact electrode as a result of a sufficient amount of force, a current flow is caused upon application of an external voltage.

47. (Original) The method according to claim 46 wherein each sensor support integrated circuit device is electrically connected to the base using contact pads.

48. (Withdrawn) The method according to claim 40 wherein the sensor array is built using active sensing cells.

49. (Withdrawn) The method according to claim 48 wherein the one or more sensor support integrated circuit devices include active CMOS devices.
50. (Original) The method according to claim 40 further comprising the step of covering the sensor array with a covering material.
51. (Original) The method according to claim 50 wherein the covering material is composed of a thin-film material.
52. (Original) The method according to claim 51 wherein the thin-film material is a polymer.
53. (Original) The method according to claim 40 further comprising the step of covering each sensor support integrated circuit device with a bezel structure.
54. (Original) The method according to claim 53 wherein the bezel structure is composed of a moldable material.
55. (Original) The method according to claim 54 wherein the moldable material is a plastic.
56. (Original) The method according to claim 40 wherein, during the step of mounting, each sensor support integrated circuit device is disposed along an edge of the sensor array.
57. (Previously Presented) The method according to claim 56 wherein the step of mounting one or more sensor support integrated circuit devices mounts only a first device, the first device configured to completely address each of the cells of the sensor array and process signals obtained from the sensing array.
58. (Previously Presented) The method according to claim 40 further comprising the step of:  
electrically connecting a cable to the interconnect structure within the base, the cable  
configured to provide power to the sensing array and a first device, and to transmit

the signals that are obtained from the sensor array and processed by the first device.

59. **(Currently Amended)** ~~The method according to claim 40~~ A method of manufacturing a sensing device to image a textured surface, the method comprising:

providing a sensor array that is fabricated upon a base, the base including an interconnect structure electrically connected to the sensor array, the sensor array having cells configured to detect the textured surface and represent different portions of the textured surface with signals corresponding thereto; and

mounting one or more sensor support integrated circuit devices upon the base, the one or more sensor support integrated circuit devices electrically connected to the interconnect structure and configured to address the cells of the sensor array and process the signals obtained from the sensor array, wherein

the step of mounting one or more sensor support integrated circuit devices mounts a first and a second device, ~~wherein:~~

the first device is configured to address each of a plurality of columns of cells in the sensor array, and

the second device is configured to address each of a plurality of rows of cells in the sensor array, and process the signal obtained from each addressed cell.

60. (Original) The method according to claim 59 wherein the step of providing provides the sensor array that is fabricated using passive sensing cells.

61. (Original) The method according to claim 59 wherein the rows of cells are disposed in a first direction and the columns of cells are disposed in a second direction perpendicular to the first direction.

62. (Original) The method according to claim 59 wherein the step of mounting mounts the sensor array on a portion of the base and the first and second devices on a different portion of the base.

63. (Previously Presented) The method according to claim 59 wherein the step of mounting mounts the first device along a first edge of the sensor array perpendicular to a first direction, and the second device along a second edge of the sensor array perpendicular to a second direction.
64. (Original) The method according to claim 63 wherein the step of mounting mounts the sensor array on a portion of the base and the first and second devices on a different portion of the base.
65. (Previously Presented) The method according to claim 59 further comprising the step of: electrically connecting a cable to the interconnect structure within the base, the cable configured to provide power to the first and second devices, and to transmit the signals obtained from the sensor array.
66. (Original) The method according to claim 65 wherein the step of providing provides the sensor array that is fabricated using passive sensing cells.
67. (Previously Presented) The method according to claim 59 wherein a flexible mechanical structure is one of a beam and a diaphragm.
68. (Original) The method according to claim 40 wherein mounting includes: building wire bridges from the one or more sensor support integrated circuit devices to the interconnect structure within the base; and bonding the wire bridges together thereby electrically connecting the sensor array and the devices.
- 69-70. (Canceled).